SECTIONS OF IS PROJECT PROPOSAL EXPLAINED

Title page

This section should include the following:

- Title of the project

  Title should contain key words (major variables, nature of research, target population) to give a clear, concise description of the topic, scope, and nature of the study (Van Dalen, 1979, in Creswell, 2009). It should generally describe the content and direction of your project.
  E.g.: ***Behaviour based Enhancement of Wide-Area Situational Awareness in a Distributed Network of CCTV Cameras***

- Admission number of the candidate
- Submission statement
  E.g. IS project proposal submitted to the Faculty of Information Technology in partial fulfillment for the requirement of the degree of Bachelor of Business Information Technology of Strathmore University
- Date of submission
  This should focus on the month and year when the proposal is submitted.
  E.g. August 2015

NB: Ensure the information given is well balanced within the page.

Declaration page

Should have separate declaration for the candidate and the supervisor.

e.g. I declare that this work has never been submitted for examination in any university

Admission No:……. Signature:…….. Date:……..

I certify that this work is being submitted for examination with my approval

Signature:…… Date:……..

Abstract

- The abstract provides a summary of your work, and is typically about 150 words.
- It should address the problem tackled, the approaches used in coming-up with the solution and the key outcomes of your project.

Table of content

- The table of contents must include corresponding page number referencing each section.
- These pages are numbered in lower-case Roman numerals and counted.

Note:

1. The preliminary pages (title page, declaration, abstract, list of tables, list of figures and abbreviations) are numbered as i, ii, iii etc. The rest of the proposal is number as 1, 2, 3, etc.
2. The numbering for the title page should not appear

List of tables

- A page with a list of tables is required if tables are included in the manuscript.
- The list must include the table number, title, and corresponding page number for each table.
- The list of tables must be represented in the table of contents.
- This page(s) is/are numbered in lower-case Roman numerals and counted.

Table of figures

- A list of figures page is required if figures are included in the proposal document.
- The list must include the figure number, title, and corresponding page number for each figure.
- The list of figures must be represented in the table of contents.
- This page is numbered in lower-case Roman numerals and counted.

Definition of terms, Abbreviations and Acronyms

- The terms are defined using the process for specification of concepts outlined in Babbie (2011) and Creswell (2009). A nominal definition for each term is provided, and when relevant, an operational definition that specifies how the concept will be measured is also provided."
- Definitions add precision to your study, helping your readers know how certain terms are being used in the study.
- Define terms that someone outside the field may not understand and terms that have multiple meanings; consider defining terms introduced in your title, introduction, etc.
- Definitions should be grounded in the literature (citation used) unless the term is "commonly understood" or if you have no source, but then re-consider if it should be a term you define (Theobald, 1991).
- Terms should be defined in one or more complete sentences, not phrases (Theobald, 1991).
- When defining terms that represent constructs that you will be measuring, indicate how you will be "operationalizing" them by stating the observable measure of those constructs; in other words, include an operational definition with your nominal definition. For example: "Critical thinking is the process of purposeful, self-regulatory judgment that drives problem-solving and decision-making (APA, 1990). For the purpose of this study, students' scores on the Cornell Critical Thinking Test, Level X (Ennis, Millman, & Tomko, 1985) will serve as the observable measure of this construct."

Chapter 1

Introduction

Note: Chapter 1 in the proposal is written in the present tense. The tense is revised to past for the completed project documentation.

1.1. Background to the study

- Sets the stage for the entire study, providing the reader with the background information for placing the study into a context of related research and justifying to the reader that a study is needed (Wiersma, 1995).
- Typically includes (Creswell, 2009):
  - a "hook" to create interest in the study
  - description of the problem or issue leading to the study (should be documented, not just your opinion that a problem exists)
  - brief discussion of the literature about the problem and/or deficiencies in past literature, placing the study within the larger context of the research literature or within the ongoing scholarly dialogue (not as in depth as in Ch. 2 and often by referencing groups of studies)
  - discussion of the significance of the study for a specific audience (note: this could be a separate section at the very end of this chapter)
- This section could include conceptual underpinnings, such as the conceptual framework or theoretical base from which your topic evolved (a rational/theoretical/research-based model from which your topic emerged).

1.2. Problem statement

In general the problem statement will *focus on the short-comings apparent in current organization or system to be addressed by the project.* More specifically it should follow the outline below:

Element	**Description**
The problem of …	Describe the problem
Affects …	Identify stakeholders affected by the problem
And results in…	Describe the impact of this problem on the stakeholders and business activities.
Benefits of a solution …	Indicate the proposed solution and list a few key benefits as a consequence of the proposed solution

1.3. Objectives

There are two part to this section; general objective commonly referred to as aim and specific objectives.

The general objectives should:

- Start with "The purpose (or intent) of this study is…."
- The purpose statement can also incorporate the rationale for the study, alluding to the significance of your study; or this rationale can be part of the background and/or significance sections (Pajares, 2007).

1.3.1. From the broad, general objective, the researcher narrows the focus to specific questions (objectives) to be answered/accomplished. Specific objectives helps to *identify the changes desired to be seen upon completion of the effort.* They should be incremental and stated in declarative form (Krathwohl, 1988 in Creswell, 2009). They should b reflective of the title and problem statement

E.g.:

1. To analyze models for robust detection and tagging of people over wide areas of different physical sites captured by a distributed network of cameras.

2. To develop a model for global situational awareness enhancement via correlating behaviours across a network of cameras located at different physical sites, and for real-time detection of abnormal behaviours in public space across camera views.

3. To develop a prototype for automatic selection and controlling of Pan-Tilt-Zoom (PTZ)/embedded smart cameras (including wireless ones) in a surveillance network to 'zoom into' people based on behaviour analysis using a global situational awareness model therefore achieving active sampling of higher quality visual evidence on the fly in a global context.

NB: 1. Ensure that your objectives are feasible, clear, significant, and ethical.
2. They should be number as in the case above.

1.4. Justification for the study

- Aim for a clear and compelling rationale for the study; how/why is your study significant and important?
- Who (what individuals or groups) can use this new knowledge or information yielded by the research to change or improve the present situation? How will

the study contribute to the improvement of the profession? To future research? To policy or practice improvements?

- Can include the documented arguments of others (expert opinion) who call for an investigation of the problem.

1.5. Scope/Delimitation

- Think of this as setting boundaries around something, such as delimiting the population to outreach practitioners in Nairobi. This is where you explain what you are not doing, but limit your delimitations to the things that a reader might reasonably expect you to do but that you, for clearly explained reasons, have decided not to do (Parjares, 2007).

Chapter Two

Literature Review

- The literature review is typically written in past tense (e.g. "Smith showed…") or present perfect tense (e.g. "Researchers have shown…"). Consistency in tense within a paragraph and throughout the chapter is important. In most cases, use only last names for persons/authors/researchers noted in your literature review; do not use position or academic titles . Avoid overuse of directly quoted material, aiming to paraphrase and cite rather than directly quote (Theobald, 1991). Also aim to avoid citing studies referenced in other studies; instead, find and cite the direct source. For example, not "Johnson (1999), as cited in (Smith, 2001);" instead "Johnson (1999) found…"
- This chapter often begins with a brief introduction to remind readers of the background and purpose you presented in Chapter 1, followed by a description of the form of this chapter in terms of purpose, scope, and sequence/organization (Theobald, 1991). Often this is done through an overview of the sections your literature review will contain and their relevance to the research question. Chapter 2 often concludes with a summary, synthesizing and highlighting the key points of your literature review. In a technical write-up it is a conceptual framework which can be capture ably using an architectural design (*Explain the technology to be used in the project. Describe hardware, software, or network components as relevant and as understood at this time. Draw a high-level architecture diagram to illustrate the proposed system components and the relationships between them)* or block-diagram.
- The body of Chapter 2 expands on the Background section from Chapter 1, further describing and framing the need for the proposed research (does this project fill in some gaps in knowledge, test a theory, replicate research, etc.). In addition, the literature review provides a review as to what is known regarding your topic and alternative points of view regarding your topic. Think of the literature as accomplishing the following things:
    - Sharing results of other studies closely related to your study;
    - Relating your study to the larger, ongoing dialogue in the literature about a topic (Marshall & Rossman, 1989); and
    - Providing a framework for establishing the importance of the study, as well as a benchmark for comparing the results of the study (Pajares, 2007).
    - Presents the foundational theories that support your study/concept.
    - Providing the methodology on how the problem can be tackled.
- Chapter 2 reports on the literature, but more importantly, is written to analyze what is found in the literature (comparing and contrasting findings, for example). Aim to communicate to the reader that you have a comprehensive grasp of the field and are aware of important and recent substantive and

methodological developments relating to your topic (Parjares, 2007). Avoid statements that imply little has been done, little is known, or that what has been done is too extensive to summarize, as this implies that you are not really familiar with the literature (Parjares, 2007).

- Keep in mind that much of what you find as you review the literature and what you write in Chapter 2 will be relevant to other chapters, such as Chapter 1 (Background), Chapter 3, and Chapter 5 (as comparisons are made between your results and those from studies in your literature, and as you interpret what you found in the context of prior research) (Theobald, 1991).
- The easy way to write a good chapter 2 is to follow the concept of objective-mapping. This implies that specific objectives are directly mapped onto subsections of chapter 2. This will focus the study to avoid unnecessary information from this chapter.

Sample of the Structure of chapter 2 using the title and objectives given above

Chapter Two

Literature Review

2.1. Introduction

2.2. Models for robust detection and tagging of people over wide areas of different physical sites captured by a distributed network of cameras

2.3. Model for global situational awareness enhancement via correlating behaviours across a network of cameras

2.4. Automatic selection and controlling of Pan-Tilt-Zoom (PTZ)/embedded smart cameras (including wireless ones) in a surveillance network

2.5. Architectural Design of the proposed automatic selection and controlling of Pan-Tilt-Zoom (PTZ)/embedded smart cameras (including wireless ones) in a surveillance network

Chapter Three

Methodology

Notes:

- *The methodology for the proposal is typically written in future tense. When describing the methods after they have been completed* ***for your completed project, this section is revised and written in the past tense.***
- *Chapter 3 should be detailed enough to allow replication (Wiersma, 1993).*

3.1. Introduction

- Chapter 3 begins with an introduction, where you briefly remind the reader of the purpose of the study and the research objectives. This introduction can be used to describe the overall paradigm and rationale for it (system development methodology), as well as to describe the overarching research purpose.
- A software development methodology or system development methodology is a framework that is used to structure, plan, and control the process of developing an information system e.g. Agile Software Development, Dynamic Systems Development Model (DSDM), Extreme Programming (XP), Joint Application Development (JAD), Rapid Application Development (RAD) etc.

3.2. System analysis and System Requirements

- Systems analysis is a process of collecting factual data, understand the processes involved, identifying problems and recommending feasible suggestions for improving the system functioning. This involves studying the business processes, gathering operational data, understand the information flow, finding out bottlenecks and evolving solutions for overcoming the weaknesses of the system so as to achieve the organizational goals. System Analysis also includes subdividing of complex process involving the entire system, identification of data store and manual processes.
- The major objectives of systems analysis are to find answers for each business process: What is being done, How is it being done, Who is doing it, When is he doing it, Why is it being done and How can it be improved? It is more of a thinking process and involves the creative skills of the System Analyst. It attempts to give birth to a new efficient system that satisfies the current needs of the user and has scope for future growth within the organizational constraints. The result of this process is a logical system design. Systems analysis is an iterative process that continues until a preferred and acceptable solution emerges.
- Techniques used include:
  - Questionnaire
  - Document Analysis
  - Observation

- Interview
- Use Case Analysis
- Data models

- The outcome under system analysis may include:
  - Requirements Definition and categorization (Functional and non-functional)
  - Methods used in collecting data
  - Use Cases or Data Model or Process Models

3.3. System Design

- Based on the user requirements and the detailed analysis of the existing system, the new system must be designed. This is the phase of system designing. It is the most crucial phase in the developments of a system. The logical system design arrived at as a result of systems analysis is converted into physical system design. Normally, the design proceeds in two stages: Preliminary or General Design and Structured or Detailed Design. For the purpose of this project, you will be expected to come-up with a detailed or structured design.
- Structure design is a blue print of a computer system solution to a given problem having the same components and inter-relationships among the same components as the original problem. Input, output, databases, forms, codification schemes and processing specifications are drawn up in detail. In the design stage, the programming language and the hardware and software platform in which the new system will run are also decided. There are several tools and techniques used for describing the system design of the system. These tools and techniques are:
  - Flowchart
  - Data flow diagram (DFD)
  - Data dictionary
  - Structured English
  - Decision table
  - Decision tree
- You will be expected to select the tools and techniques you will use for the designing of your system.
- The outcome under system analysis may include:
  - DFD
  - ERD
  - Database schema
  - Class Diagram

3.4. System implementation methods and tools

The big question here is how is the solution constructed?

During the system implementation the system specifications turn into a working system that is tested and put into use. System implementation phase includes coding, testing

and installation. It also involves taking all of the detailed design documents from the design phase and transforming them into the actual system.

In this section include the software that will be used in the design and development of the proposed system. Describe the role each will play in the design and development of the system.

Include the Software testing strategies that will be used e.g.

- Developmental (check program logic)
- Alpha testing (simulated data)
- Beta testing (real data)

3.5. Deliverables

- List deliverables expected to be produced for the project. For instance, indicate the key system modules.
- System documentation, training, and support will be vital deliverables and they include:
    - User and reference guides
    - Installation procedures and troubleshooting guides

References

This section includes all the materials cited in the document. You should follow the APA referencing format. It should start on a new page of your proposal.

Follow the link below for guidance:

https://owl.english.purdue.edu/owl/resource/560/10/

Appendix

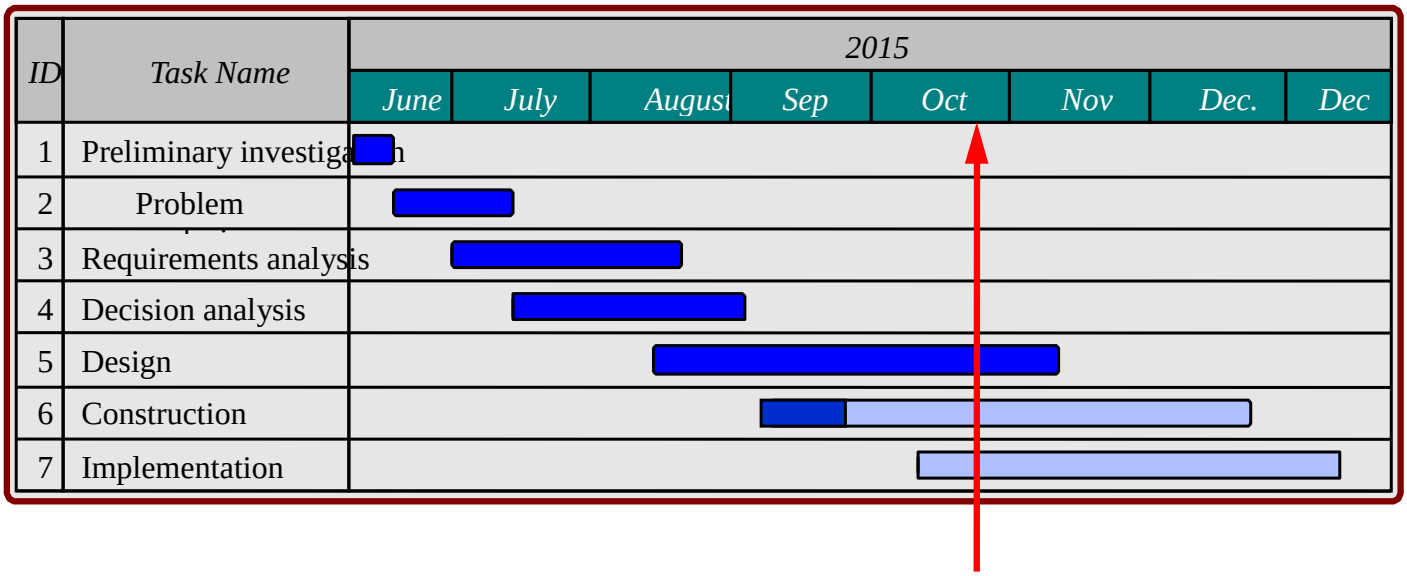
Will include materials relevant to the project but could not fit within the body of your proposal. They may include materials like permission to conduct study using organizational data/names, important code segments of the system etc.

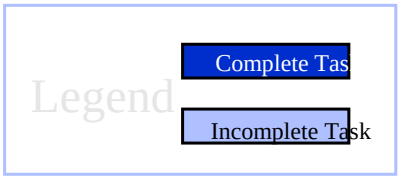
If you have materials of different nature, they can be labeled as appendix 1, Appendix 2, etc. in order to have consistency. It should start on a new page of your proposal.

Time Schedule

This is the time plan detailing key activities/milestones involved in the system development.

A Gantt chart will be ideal to represent a time schedule for your project. E.g.





Note:

1. Make a Gantt chart for the entire project including final defense and submission of report.
2. It should be on a new page of the proposal.